



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/595,709	06/16/2000	COREY SIMONS	102689-25/00-U0026	3556
21125	7590	08/12/2004	EXAMINER	
NUTTER MCCLENNEN & FISH LLP WORLD TRADE CENTER WEST 155 SEAPORT BOULEVARD BOSTON, MA 02210-2604			MAIS, MARK A	
			ART UNIT	PAPER NUMBER
			2664	
DATE MAILED: 08/12/2004				

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/595,709

Applicant(s)

SIMONS ET AL.

Examiner

Mark A Mais

Art Unit

2664

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 November 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 4 and 5.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Information Disclosure Statement

1. The information disclosure statements (IDSs) submitted on November 27, 2000 and December 7, 2000, were filed after the mailing date of the Application on June 16, 2000. The submissions are in compliance with the provisions of 37 CFR 1.56 and 1.97. Accordingly, the examiner considered the information disclosure statement.

Specification

2. The disclosure is objected to because of the following informalities: Applicant submitted a preliminary amendment on November 16, 2000, for proposed drawing changes and included pertinent pages of the specification. Applicant must formally amend the specification in order for the proposed changes to be entered. Appropriate correction is required.

Objections

3. The disclosure is objected to because of the following informalities: The specification contains references to copending and/or issued applications without the reference to the U.S. application/serial numbers throughout the specification (e.g. page 91, line 8). Appropriate correction is required.

Claim Rejections - 35 USC § 102/103

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

Art Unit: 2664

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1-20 are rejected under 35 U.S.C. 102(e) as being anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Anderson et al. (USP 6,597,691).

7. With regard to claims 1-6, Anderson et al. discloses a network device comprising: a plurality of mid-planes (**Figs. 12-14, four backplanes are in each backplane 60/260, col. 7, lines 10-12**); and a switch fabric subsystem coupled to each of the plurality of mid-planes (**Figs. 12-14, crossbar packet switch 70/270 is connected to each of the four backplanes 60/260, col. 7,**

Art Unit: 2664

lines 12-14). An internal control processor card coupled to each of the plurality of mid-planes **(Figs. 12-14, processors 80/280, col. 7, lines 22-29).** The switch fabric subsystem is a printed circuit boards **(col. 7, lines 59-60).** Each of the disclosed backplanes is inherently a printed circuit board with a plurality of connectors.

8. With regard to claims 7-8, Anderson et al. discloses multiple forwarding subsystems **(Figs. 14 and 15, examiner interprets the Fport circuit 51 within each ASIC 50 as the forwarding subsystem (col. 8, lines 10-29) which performs forwarding of class 2/3 packets via output port, T-port (Fig. 14), and to the switch fabric 70/270 via output port, O-port (Fig. 14), col. 7, lines 39-44) connected to the multiple mid-planes (Figs. 12-14, four ASICs 50 are connected to each of the four backplanes 60 and 260 via , col. 7, lines 10-12) and coupled to the switch fabric through the multiple mid-planes (Figs. 12-14, each of the ASICs 50 are connected to the crossbar switch 70 and 270 via one of the four backplanes 60/260, col. 7, lines 12-14).**

9. With regard to claims 9-13, Anderson et al. discloses a the network device of claim 5, further comprising:

multiple cross-connection subsystems connected to multiple mid-planes **(Figs. 13-14, one crossbar packet switch 55 within each of four ASICs 50, col. 8 lines 24-29; connected to one of each of the four backplanes 60/260 via Fport circuit 51);**

multiple port subsystems **(Figs. 12-13, each of the four backplanes 60/260 is connected to four ASIC 50s which, in turn, each have at least 4 link ports 52, col. 7, lines 6-8) connected to the multiple mid-planes (backplanes 60/260, col. 7, lines 8-9) and coupled to the**

Art Unit: 2664

multiple cross-connection subsystems through the multiple mid-planes (**Figs. 12-14, each crossbar packet switch 55 within each of four ASICs 50 are connected to the crossbar switch 70/270 via one of the four backplanes 60/260, col. 7, lines 12-14**); and

multiple forwarding subsystems (**Figs. 14 and 15, examiner interprets the Fport circuit 51 within each of the four ASICs 50 connected to each backplane 60/260 as the forwarding subsystem (col. 8, lines 10-29) which performs forwarding of class 2/3 packets via output port, T-port (Fig. 14), and to the switch fabric 70/270 via output port, O-port (Fig. 14), col. 7, lines 39-44) connected to the first mid-plane (Figs. 12-14, four ASICs 50 are connected to each of the four backplanes 60/260, col. 7, lines 10-12) and coupled to multiple cross-connection subsystems and the switch fabric subsystems through the first mid-plane (Figs. 12-14, each crossbar packet switch 55 within ASIC 50 is connected to the crossbar switch 70/270 via one of each of the four backplanes 60/260, col. 7, lines 12-14).**

10. With regard to claim s 14-16, Anderson et al. discloses that each of the multiple cross-connection subsystems are coupled together through the multiple mid-planes (**Figs. 12-14, each of the crossbar packet switches 55 within each of the four ASICs 50 are connected to the crossbar packet switch 70/270 via each of the four backplanes 60/260. *see also* col. 10, lines 19-31, where additional cross-connections B0-B3 cross-connect each of the four backplanes).**

11. With regard to claim 17, Anderson et al. discloses a network device, comprising:

a first mid-plane and a second mid-plane (**Figs. 12-14, four backplanes are in each**

Art Unit: 2664

backplane 60/260, col. 7, lines 10-12);

a switch fabric card coupled to the first mid-plane and the second mid-plane (Figs. 12-14, crossbar packet switch 70/270 is connected to each of the four backplanes 60/260, col. 7, lines 12-14);

a first cross-connection card connected to the first mid-plane (Figs. 13-14, one crossbar packet switch 55 within each of four ASICs 50, col. 8 lines 24-29; connected to one of each of the four backplanes 60/260 via Fport circuit 51);

a first port card (Figs. 12-13, each of the four backplanes 60/260 is connected to four ASIC 50s which, in turn, each have at least 4 link ports 52, col. 7, lines 6-8) connected to the first mid-plane (backplanes 60/260, col. 7, lines 8-9) and coupled to the first cross-connection card through the first mid-plane (Figs. 12-14, each crossbar packet switch 55 within each of four ASICs 50 are connected to the crossbar switch 70/270 via one of the four backplanes 60/260, col. 7, lines 12-14); and

a first forwarding card (Figs. 14 and 15, examiner interprets the Fport circuit 51 within each ASIC 50 as the forwarding subsystem (col. 8, lines 10-29) which performs forwarding of class 2/3 packets via output port, T-port (Fig. 14), and to the switch fabric 70/270 via output port, O-port (Fig. 14), col. 7, lines 39-44) connected to the first mid-plane (Figs. 12-14, four ASICs 50 are connected to each of the four backplanes 60/260, col. 7, lines 10-12) and coupled to the first cross-connection subsystem and the switch fabric subsystem through the first mid-plane plane (Figs. 12-14, each crossbar packet switch 55 within ASIC 50 is connected to the crossbar switch 70/270 via one of each of the four backplanes 60/260, col. 7, lines 12-14).

Art Unit: 2664

12. With regard to claim 18, Anderson et al. discloses:

a second cross-connection card (Figs. 13-14, one crossbar packet switch 55 within each of four ASICs 50, col. 8 lines 24-29; connected to one of each of the four backplanes 60/260 via Fport circuit 51) connected to the second mid-plane (Figs. 12-14, four backplanes are in each backplane 60/260, col. 7, lines 10-12);

a second port card (Figs. 12-13, each of the four backplanes 60/260 is connected to four ASIC 50s which, in turn, each have at least 4 link ports 52, col. 7, lines 6-8) connected to the second mid-plane (backplanes 60/260, col. 7, lines 8-9) and coupled to the second cross-connection card through the second mid-plane (Figs. 12-14, each crossbar packet switch 55 within each of four ASICs 50 are connected to the crossbar switch 70/270 via one of the four backplanes 60/260, col. 7, lines 12-14); and

a second forwarding card (Figs. 14 and 15, examiner interprets the Fport circuit 51 within each ASIC 50 as the forwarding subsystem (col. 8, lines 10-29) which performs forwarding of class 2/3 packets via output port, T-port (Fig. 14), and to the switch fabric 70/270 via output port, O-port (Fig. 14), col. 7, lines 39-44) connected to the second mid-plane (Figs. 12-14, four ASICs 50 are connected to each of the four backplanes 60/260, col. 7, lines 10-12) and coupled to the second cross-connection subsystem and the switch fabric subsystem through the second mid-plane (Figs. 12-14, each crossbar packet switch 55 within ASIC 50 is connected to the crossbar switch 70/270 via one of each of the four backplanes 60/260, col. 7, lines 12-14).

Art Unit: 2664

13. With regard to claim 19, Anderson et al. discloses:

a third cross-connection card (Figs. 13-14, one crossbar packet switch 55 within each of four ASICs 50, col. 8 lines 24-29; connected to one of each of the four backplanes 60/260 via Fport circuit 51) connected to the first mid-plane (Figs. 12-14, crossbar packet switch 70/270 is connected to each of the four backplanes 60/260, col. 7, lines 12-14);

a third port card (Figs. 12-13, each of the four backplanes 60/260 is connected to four ASIC 50s which, in turn, each have at least 4 link ports 52, col. 7, lines 6-8) connected to the first mid-plane (backplanes 60/260, col. 7, lines 8-9) connected to the first mid-plane (backplanes 60/260, col. 7, lines 8-9) and coupled to the third cross-connection card through the first mid-plane (Figs. 12-14, each crossbar packet switch 55 within each of four ASICs 50 are connected to the crossbar switch 70/270 via one of the four backplanes 60/260, col. 7, lines 12-14); and

a third forwarding card (Figs. 14 and 15, examiner interprets the Fport circuit 51 within each ASIC 50 as the forwarding subsystem (col. 8, lines 10-29) which performs forwarding of class 2/3 packets via output port, T-port (Fig. 14), and to the switch fabric 70/270 via output port, O-port (Fig. 14), col. 7, lines 39-44) connected to the first mid-plane (Figs. 12-14, four ASICs 50 are connected to each of the four backplanes 60/260, col. 7, lines 10-12) and coupled to the third cross-connection subsystem and the switch fabric subsystem through the first mid-plane (Figs. 12-14, each crossbar packet switch 55 within ASIC 50 is connected to the crossbar switch 70/270 via one of each of the four backplanes 60/260, col. 7, lines 12-14).

Art Unit: 2664

14. With regard to claim 20, Anderson et al. discloses:

a fourth cross-connection card (Figs. 13-14, one crossbar packet switch 55 within each of four ASICs 50, col. 8 lines 24-29; connected to one of each of the four backplanes 60/260 via Fport circuit 51) connected to the second mid-plane (Figs. 12-14, crossbar packet switch 70/270 is connected to each of the four backplanes 60/260, col. 7, lines 12-14);

a fourth port card (Figs. 12-13, each of the four backplanes 60/260 is connected to four ASIC 50s which, in turn, each have at least 4 link ports 52, col. 7, lines 6-8) connected to the first mid-plane (backplanes 60/260, col. 7, lines 8-9) connected to the second mid-plane (backplanes 60/260, col. 7, lines 8-9) and coupled to the fourth cross-connection card through the second mid-plane (Figs. 12-14, each crossbar packet switch 55 within each of four ASICs 50 are connected to the crossbar switch 70/270 via one of the four backplanes 60/260, col. 7, lines 12-14); and

a fourth forwarding card (Figs. 14 and 15, examiner interprets the Fport circuit 51 within each ASIC 50 as the forwarding subsystem (col. 8, lines 10-29) which performs forwarding of class 2/3 packets via output port, T-port (Fig. 14), and to the switch fabric 70/270 via output port, O-port (Fig. 14), col. 7, lines 39-44) connected to the second mid-plane (Figs. 12-14, four ASICs 50 are connected to each of the four backplanes 60/260, col. 7, lines 10-12) and coupled to the fourth cross-connection subsystem and the switch fabric subsystem through the second mid-plane (Figs. 12-14, each crossbar packet switch 55 within ASIC 50 is connected to the crossbar switch 70/270 via one of each of the four backplanes 60/260, col. 7, lines 12-14).

Conclusion

15. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

(a) Cantwell et al. (USP 6,370,155) High Density Shelf Network Interface Card and Method. This reference discloses/teaches multiple mid-planes, multiplexing, cross-connection, and forwarding of packets .

(b) Aug et al. (USP 5,023,754) Double-sided Backplane Assembly. This reference discloses/teaches multiple midplanes, cross-connect/switch-fabric, port cards and forwarding of packets.

(c) Casanova et al. (USP 5,031,075) Double-sided Logic Cage. This reference teaches multiple mid-planes with multiple card slots.

(d) Gupta et al. (USP 6,272,151) Scalable Multimedia Network.

(e) Sankey et al. (USP 6,400,291) Multiple Time Domain Serial-to-parallel converter. This reference teaches a complex with multiple cards and cross-connect/switching/multiplexing.

(f) Uzuka et al. (USP 6,392,142) Printed Wiring board Mounting Structure.

(g) Ganmukhi et al. (USP 5,953,314) Control Processor switchover for a telecommunications switch. This reference discloses/teaches multiple ports, multiple planes, forwarding, switching and crossover.

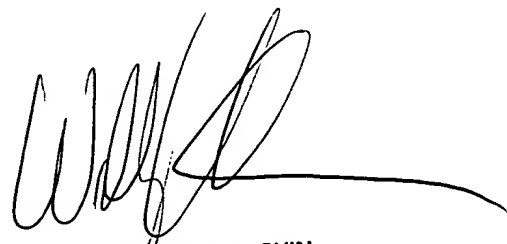
16. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mark A Mais whose telephone number is (703) 305-6959. The examiner can normally be reached on 8:00-4:30.

Art Unit: 2664

17. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wellington Chin can be reached on (703) 305-4366. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

18. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

July 22, 2004



WELLINGTON CHIN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600